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Amendments to the Claims:

A clean version of the entire set of pending claims, including amendments to the claims, is submitted herewith per 37 CFR 1.121(c)(3). This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) An image processing system for displaying information relating to the amplitude of displacements of wall regions of a deformable 3D object under study, the system comprising:

_____ acquisition means for acquiring image data of an image sequence of the 3D object under study, and further comprising

_____ processing means for:

_____processing the 3D object data in the images of the sequence for locating the 3D object wall, defining at least a regionregions of interest on the 3D object wall, and processing the image data of the 3D object wall to determine the amplitude of displacement of each of said region(s)regions of interest in as a function of time; and

_____constructing a first 2D simplified representation of the 3D object wall by projection of the 3D object wall along an axis, comprising the projection(s)projections of the region(s)regions of interest in said 2D simplified representation; and comprising

_____display means for[[:]] displaying indications of the amplitudes of displacement of each of the region(s)regions of interest of the 3D object wall in the respective projection(s)projections of said region(s)regions of interest, called segments, in said constructed 2D simplified representation.

2. (Currently Amended) The image processing system of claim 1, wherein the means for constructing this first 2D simplified representation, called 2D simplified amplitude representation, provides indications of amplitudes that are indications of

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the maximal or minimal amplitudes of displacements of the ~~region(s)~~regions of interest over a period of time.

3. (Currently Amended) The image processing ~~method~~ system of claim 2, further comprising means for:

constructing a second 2D simplified representation of the 3D object wall, similar to the first 2D simplified representation of the 3D object wall, and with similar projections of the ~~region(s)~~regions of interest, called segments, this second 2D simplified representation being called 2D simplified phase representation; and

displaying indications of the instants of time at which the maximum or minimum of amplitudes of displacements ~~occur(s)~~occur in the ~~region(s)~~regions of interest, over said period of time, in said 2D simplified phase representation.

4. (Original) The image processing system of claim 3, comprising means to display the 2D simplified amplitude representation and the 2D simplified phase representation together in a same image.

5. (Currently Amended) The image processing system of ~~one of claims 1 to 4~~ claim 4, comprising means to display the values of amplitude and of time in the respective 2D simplified amplitude representation and the 2D simplified phase representation indicated in a color-coded manner.

6. (Currently Amended) The system of claim 1, comprising means to display indications of the amplitudes of displacement of the ~~region(s)~~regions of interest of the 3D object wall in the respective ~~projection(s)~~projections of the ~~region(s)~~regions of interest, called segments, in said constructed 2D simplified representation, in a color-coded manner, the indications of the amplitudes of displacement changing in the segments at the rate of the images of the sequence, so as to form an animated 2D simplified representation ~~in~~ as a function of time.

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7. (Currently Amended) The image processing system of one of claims 1 to 6, comprising means to display the 2D simplified ~~representation(s)~~ representations of the 3-D object wall as 2D bull's ~~eye-representation(s)~~ eye representations.

8. (Currently Amended) The image processing system of ~~any one of the previous claims~~ claim 1, wherein the object under study is the heart left ventricle and the ~~object~~ regions of interest ~~is~~ include the internal boundary of the left ventricle wall.

9. (Currently Amended) The image processing system of ~~any one of the previous claims~~ claim 1, wherein the processing means for locating the 3D object wall is a segmentation means for operating a segmentation technique applied to the 3D object under study, which includes using a mesh model technique, and reshaping the mesh model for mapping said mesh model onto the wall of the 3D object under study, so as to provide a simplified volume with a wall, called object wall, that is the object of interest.

10. (Currently Amended) A system comprising a suitably programmed computer or a special purpose processor having circuit means, which are arranged to process image data as claimed in ~~any of claims 1 to 9~~ claim 1, and having means to display the processed images.

11. (Currently Amended) An image processing method for processing ultrasound image data and for displaying an ultrasound image of a deformable 3-D organ with indications of the organ wall motions, comprising steps of:
acquiring image data of an image sequence of the organ under study, segmenting the 3-D organ in the images of the sequence for locating the 3D object wall, defining ~~at least a region~~ regions of interest on the segmented 3D organ wall, and processing the image data to determine the amplitude of displacement of each of said ~~region(s)~~ regions of interest ~~in~~ as a function of time;

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constructing a first 2D simplified representation of the 3D segmented organ wall by projection of the 3D segmented organ wall along an axis, comprising the ~~projection(s)~~projections of the ~~region(s)~~regions of interest in said 2D simplified representation; and

displaying indications of the amplitudes of displacement of the ~~region(s)~~regions of interest of the 3D segmented organ wall in the respective ~~projection(s)~~projections of the ~~region(s)~~regions of interest, called segments, in said constructed 2D simplified representation, in a color coded manner.

12. (Currently Amended) The method of claim 11, comprising steps of:

displaying indications of the maximal or minimal amplitudes of displacement of ~~the region(s)~~each of the regions of interest, over a period of time, this first 2D simplified representation being called 2D simplified amplitude representation;

constructing a second 2D simplified representation of the 3D segmented organ wall, similar to the first 2D simplified representation of the 3D segmented organ wall, and with similar projections of the ~~region(s)~~ regions of interest, called segments, this second 2D simplified representation being called 2D simplified phase representation; displaying indications of the instants of time at which the maximum or minimum of amplitudes of displacements ~~occur(s)~~occur in the ~~region(s)~~regions of interest, over a period of time, in said 2D simplified phase representation; and

displaying the 2D simplified amplitude representation and the 2D simplified phase representation in a same image at the same time.

13. (Currently Amended) A computer program product comprising a computer readable medium including a set of instructions for carrying out a method as claimed in one of claims 11 or 12.

14. (New) The method of claim 11, wherein displaying indications of the amplitudes of displacement of the regions of interest comprises displaying values of the amplitudes in a color-coded manner.

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15. (New) The method of claim 12, wherein displaying indications of the amplitudes of displacement of the regions of interest, and displaying the indications of the instants of time at which the maximum or minimum of amplitudes of displacements occur in the regions of interest in the respective 2D simplified amplitude representation and the 2D simplified phase representation comprises displaying values of the amplitudes and of the instants in time in a color-coded manner.